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America's Deterrent

Combat Crew

strategic air command

JULY 1987

★★★★

Lt Gen Kenneth L. Peek, Jr.
Vice Commander in Chief, SAC

LEADERSHIP — HONING THE CUTTING EDGE

The Strategic Air Command is the world's premier warfighting command. We have outstanding people, superb weapon systems, and the leadership to transform potential into real combat power. Building leaders is one of our most critical challenges. As combat crew members, your leadership is the cutting edge, because it is your spirit, your standards, and your commitment that will ultimately determine victory or defeat.

At times you will be called upon to sacrifice, but that's what a military career is all about. Over the past two centuries, thousands of courageous Americans have defended our nation. As they went into battle they were not sweating their careers and they were not sweating their next assignment. They were sweating the agony of a fallen comrade, they were sweating victory, and they were demonstrating courage and dedication. They were involved and they made a difference, and that's what leadership is all about.

Today, you share a common responsibility to preserve and improve the institutions which defend our country and our freedom. As a leader, each of you is responsible for setting, maintaining, and enforcing the highest standards. Whether you are a flight commander, crew commander, aircraft commander or simply a member of a crew, you have the ability to make a difference. The example you set—what you do, what you say, how hard you train, how much you participate—will influence others. The critical nature of our profession demands nothing less than excellence. You must seize the opportunity to hone the skills, and attitudes, and feelings, and values that prepare you to lead.

Recently we had a serious inflight emergency involving a SAC aircraft. The fact that the aircraft eventually landed safely is a testament to the airmanship and discipline of the crew. Under the most difficult conditions, they were prepared and they came through as top performers.

Another officer who played an important role was more than 3,000 miles away when the emergency began. He was on another aircraft, a commercial flight, returning from a TDY. But during the difficult landing of the SAC aircraft, he was right there in the cockpit—talking with the crew about fuel distribution, flap settings, airspeed, and what to expect on touchdown. He was young, but he was a professional, he was involved, and he made a difference.

Of course, he was only there because a lot of other people got involved, too. He was only there because a safety officer remembered that a similar incident had occurred two years before. He was only there because a tenacious personnel officer tracked him to his current unit. He was only there because his commander met his commercial flight and got him to a phone. He was only there because the command post controllers worked their communications wizardry. All of these people and many others got involved, and all of them made a difference.

Leading and learning to lead are hard work, but the rewards are great. Winston Churchill said, "to every man, there comes in his lifetime that special moment when he is tapped on the shoulder and offered the chance to do a very special thing, unique and fitted to his talents. What a tragedy if that moment finds him unprepared and unqualified for the work that would be his finest hour." I challenge each of you to hone the cutting edge—leadership. Develop a winning spirit, set a positive example, get involved, and make a difference.★★★

Combat Crew

Magazine of the Strategic Air Command — 37th Year of Publication

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ON OUR COVER

Combat Crew salutes the SAC crew members who supply a needed ingredient — deterrence — to America's Fourth of July festivities.

SACRP 127-1 VOL. XXXVII NO. 7 JULY 1987

COMBAT CREW is an internal publication of the Strategic Air Command with the primary purpose of promoting safety. The contents of this magazine are informative and not to be considered as directive in nature. Facts, testimony and conclusions of all mishaps herein may not be construed as incrimination under Article 31 of the Uniform Code of Military Justice. All names, dates and places used in conjunction with mishap stories are fictitious. Written permission must be obtained from Headquarters, Strategic Air Command before any material may be reprinted by other than U.S. Air Force organizations. Use of funds for printing this publication has been approved by Hq. USAF, Distribution FX, controlled by IGFE, SAC units submit distribution requests through local PDO. Reader to copy ratio one per combat crew; 10:1 for other SAC personnel. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Contributions are encouraged as well as comments and criticism. Direct correspondence with the Editor is authorized. Address correspondence to Editor, Combat Crew, HQ SAC/IGFE Offutt AFB, NE 68113-5001 AV 271-2620/6221.

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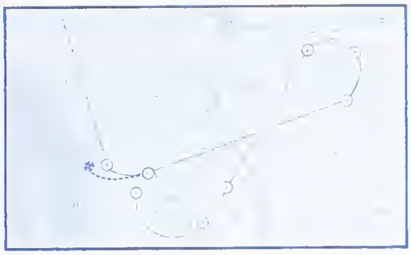

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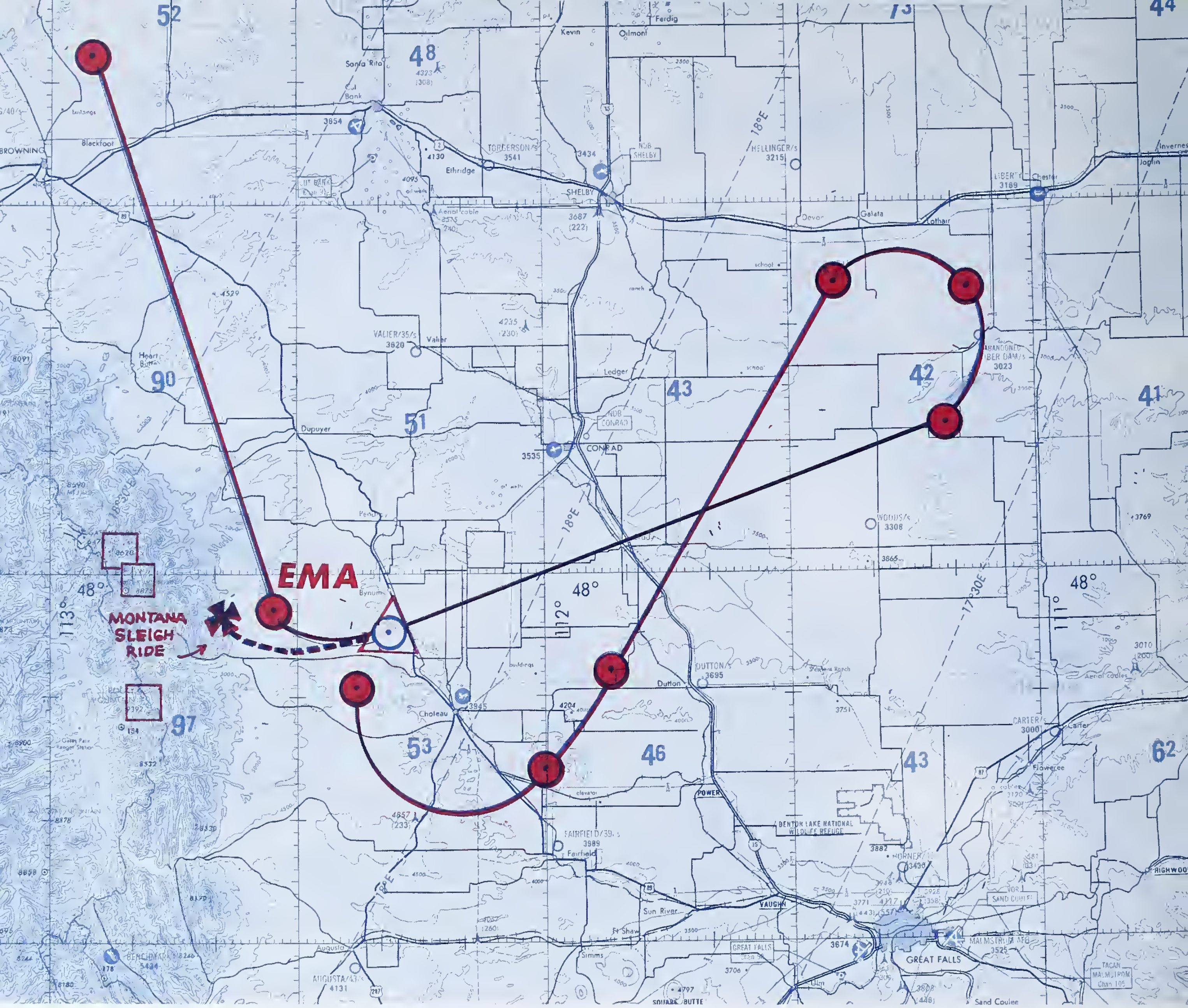


Montana Sleigh Ride

Maj John D. Orr
320 BMW, Mather AFB

A genuine Indian Summer day in the north country just can't be beat. The crew was well rested after a relatively quiet three day weekend. The mission rebrief in Stan/Eval was uneventful, and as a navigator on S-02 I quickly briefed the night's activity to the two pilots and the old head IP. Although the aimpoints along the route were few and far between, the bomb runs were designed for a blind man.

Our quick stop at Base Ops for a weather update and snack were normal. The weather guy had predicted excellent visibility for the entire route, in fact, the strong winds forecast for low level were the cause of our fantastic summer-like day. Preflight, launch, and refueling were by the numbers. This was turning into a real routine sortie.

The controller handling traffic around IR 91 seemed almost glad to talk to us. The silence on center frequency was broken by our route and altitude clearance as well as a weather advisory that the winds in our route of flight had been picking up all evening. Our trusty H-model ASQ-38 navigation system was running like a clock and the enroute navigation was going to be a piece of cake. At IFR level altitude we discovered winds in the 45-50 knot range making the ride manageable but choppy. Prevailing directives during that time allowed night TA as long as the actual winds at TA altitude stayed less than 40 knots, thus permitting us to go down and sample the TA winds at any time we desired. Discretion being the better part of valor dictated a bumpy enroute at IFR altitude and then a quick alignment and TA bomb run on the flat, rolling portion of Agawam bomb plot (the area near Conrad, Montana for you young guys). True to the prediction, the air down at TA altitude was like a silk sheet. The crusty radar made the bomb runs look obscenely easy and our scores in the clear proved it. S-02 was really strutting its stuff. The Bitteroot mountains to the west of Great Falls called for a hard right turn and vigorous climb after the EMA. Downstairs, the radar and I were cleaning up the checklists and generally relaxing in the glory that only a confirmed "shack" could generate.

It was subtle at first, just a few mild wrinkles in the silky smooth air that we had been traversing. The PUP in the left seat had applied power and begun the climb when it happened: 45 seconds of the worst pounding anyone on the crew had ever witnessed. The fast thinking PUP pushed the throttles through the thrust gate and pulled on the yoke for all it was worth. Our rate of climb should have been fantastic, but the net result of 45 seconds of severe mountain wave turbulence was a loss of 800 feet. When it was over we all looked around. We had gone outside the corridor and were dangerously close to the mountains, but we were still alive and for the moment that was all that counted. Climbout from then on was uneventful, so we took stock of our situation and called center. Remembering the movie **Flight Without a Fin** we decided to see if our tail feathers were still attached. The trusty sextant satisfied our curiosity and made our decision process simple —we would do a controllability check enroute home, a low approach to let the SOF check us out, and then if everything was okay our pilots would proceed to beat up the pattern for two pilot proficiency events. The controllability check appeared to be normal. As the PUP called for the checklist and briefed the approach, our calm composure was punctuated by a series of bright flashes from the pilot's side. Remembering that there are 10,000 miles of electrical wire in the B-52, our first thought was that the severe turbulence had crossed two of those wires, setting up a potential inflight fire and explosion. We declared an emergency and decided to set the airplane down immediately. At 3 a.m. in emergency conditions one's mind doesn't always work properly, and I quickly volunteered to unlock the hatch once we were on the ground. Everyone agreed that this noble gesture would probably be the pivotal action in our survival.

> **"When it was over we all looked around. We had gone outside the corridor and were dangerously close to the mountains, but we were still alive and for the moment that was all that counted."**

I felt the touchdown and immediately unstrapped to unlock the hatch, kicking open the unlocking mechanism as the drag chute deployment got my attention. Residual cabin pressure caused the hatch to open. The Radar said my eyes got as big as frisbees. My immediate concern was having the down locks or bypass keys fall out and cause a tire failure. I could just see myself paying for those new tires. The SOF and Fire Rescue crew confirmed our aircraft was serviceable and undamaged (except for the open hatch). Despite these assurances, we decided to call it a day. Maintenance investigation could find nothing wrong with the aircraft save the anti-ice system on number three engine. Our controllability check at 20,000 feet produced enough ice on that engine to cause several spectacular compressor stalls that we had misjudged as actual fire.

After some embarassment and storytelling, I finally sat down over a couple of cold ones with our weather forecaster and a fearless SIFC graduate. I wanted to find out what we had gone through and what we could have done to prevent it. Our weather forecaster explained that clear air mountain wave turbulence was common during the fall and was essentially a more severe form of mechanical turbulence. Any time the winds exceed 15 to 25 knots at the surface, especially if the wind is blowing perpendicular to the mountains, we could expect mechanical turbulence of varying intensity, probably moderate to severe. Our training flight IP interjected that our first mistake was dipping below the IFR deck to sample the winds. This had set us up for a classic encounter with the turbulence below the fast moving wind. Although it wasn't stated then, SACR 51-52 and the Dash 11 are very specific about descending in the mountains with winds greater than 40 knots. The Dash 11 also advises a gradual climb (less than 1,000 fpm) at turbulent penetration airspeed to clear the area. As with any low level turbulence penetration, keeping the autopilot engaged in the low level mode and limiting the airspeed to 270 KIAS or .77 Mach airspeed, whichever is less, will help make your day.

We were lucky, the turbulence that we encountered that dark night is something that could have been prevented. Our bout with the anti-ice and the hatch could have been avoided if we had correctly analyzed the situation. Flying the B-52 is a complicated and stressing occupation. Automatically assuming that multiple malfunctions are interrelated is the fastest way to buy a one way ticket on the Montana Sleigh Ride. The bottom line as they say is to Stop, **THINK**, and collect your wits.

ABOUT THE AUTHOR:
Major John D. Orr was the Chief of Safety for the 320th BMW and has just been assigned to ASD at Wright Patterson AFB.

SAC Commander in Chief Gen John T. Chain Jr. congratulates Col Robert W. Parker, commander 321st SMW, Grand Forks AFB, for capturing the Blanchard Trophy.

Ken Maassen
Associate Editor

U.S. Air Force Photos
By TSgt Doug Gruben

WARRIORS TRIUMPH!

321st Takes Home the Blanchard

By a scant five-point margin, the "Warriors of the North" from Grand Forks AFB won the coveted Blanchard Trophy at the 1987 SAC Missile Combat Competition held May 1-7 at Vandenberg AFB. Led by their Viking mascot and a record showing by their operations teams, the 321st Strategic Missile Wing edged their rivals to the south, the Black Hills Bandits of the 44th SMW at Ellsworth AFB, SD.

The South Dakota team dominated individual competitions with wins in seven categories, including best totals in missile maintenance and security police battles. But in the end, it was the North Dakota warriors who chanted, "Best in SAC, that's a fact!"

It all came down to a final operations score for the Black Hills Bandits, who needed a 264 for the win. The crowd jampacked into the Base Auditorium watched anxiously as the score went up: first a two, then an eight and finally the five. Only two-tenths of one percentage point separated the first and second place teams.

Snaring first place finishes in the Missile Operations, Missile Crew and Crew Single Exercise categories, the Grand Forks teams grabbed a total of 2666 points of a possible 3,000. Crew S-280 of the 321 SMW, consisting of Capt Scott E. Goehring, MCCC, and 1Lt Michael W. Miller, DMCCC, posted an all-time high 294 points in capturing the Best Crew Single Exercise Award. Besides winning the Blanchard Trophy, which signifies the best missile wing in SAC, Grand Forks also captured the Most Improved Wing Award. Scoring was extremely tight at this year's competition, as only 65 points separated first from last place.

The Black Hills Bandits of Ellsworth AFB took home the titles of Best Missile Communications, Best Missile Maintenance, Best Electro-Mechanical Team, Best Power-Refrigeration-Electric Team, Best Missile Security Police, and Best Security Police Unit Tactics Exercise. In also winning the Best Security Police Unit

"Teddy Roosevelt" leads the Minot "Rough Riders" in a cheer during Olympic Shield score posting ceremonies.

Confidence Course award, the troops from the Black Hills posted a perfect score of 40.

Third place overall went to the 351st SMW, Whiteman AFB. Their total of 2626 points included the title of Best Missile Civil Engineering.

The "Mighty 90th Troopers" of the 90th SMW, F.E. Warren AFB, Wyoming, garnered fourth place along with the honor of possessing the Best Missile Maintenance Team.

A tie score determined fifth place in this year's competition with Minot AFB and Malmstrom AFB teams earning a total of 2601 points. The "Roughriders" of the 91st SMW took home the title of Best Mechanical Team, while the 341st SMW's "First Aces" scored a maximum 60 points in winning the Best Security Police Unit Combat Rifle Course title.

Deactivation of the Titan II missile system, scheduled to be completed this fall, and deployment of the

Best Security Police Unit Confidence Course — 44 SMW, Ellsworth AFB. From left: SSgt Richard Canez Jr., Sgt Richard Bular, SrA Anthony Armbruster, A1C Anthony Albano, Amn Peter Hervoyavich, Amn Eric Shepherd, and Col Robert Swing, deputy chief of staff, HQ SAC Security Police.

Best Missile Civil Engineering — 351 SMW, Whiteman AFB. From left: TSgt David F. Jencks, Sgt Paul C. Tracy, 351st CSG Commander Col Michael R. Dennington, and Col Ray D. Schwartz, deputy chief of staff, HQ SAC Engineering and Services.

Best Security Police Unit Combat Rifle Course — 341 SMW, Malmstrom AFB. From left: SSgt William Stanifer, Sgt Brian Cape, Sgt David Luce, SrA William Squires, SrA Timothy Pierce, SrA Mark Gustafson, A1C Jeffery Robichaud, and Col Robert Swing, deputy chief of staff, HQ SAC Security Police.

Best Electro-Mechanical Team — 44 SMW, Ellsworth AFB. From left: SSgt Michael Snodgrass, SSgt Frank L. Banks, and Maj Gen John J. Doran Jr., deputy chief of staff, HQ SAC Logistics.

Best Missile Communications — 44 SMW, Ellsworth AFB. From left: SSgt Leo Taylor, SSgt Wayne Wright, 2148 Communications Squadron Commander Lt Col Steven Smith, and Col Stancil Dilda, deputy chief of staff, HQ SAC Information Systems.

Best Missile Maintenance Team — 90 SMW, F.E. Warren AFB. From left: SSgt Jeffery Harrell, SSgt George Bustillo, SSgt Andrew Dalton, SrA Darryl Osborne, A1C Timothy Lloyd, and Maj Gen John J. Doran Jr., deputy chief of staff, HQ SAC Logistics.

Best Mechanical Team — 91 SMW, Minot AFB. From left: TSgt Michael Miller, Sgt Scott Frazier, Maj Gen John J. Doran Jr., deputy chief of staff, HQ SAC Logistics.

Most Improved Wing. Col Robert W. Parker, commander 321st SMW, holds up the "silver" for the Most Improved Missile Wing as 15th Air Force Commander Lt Gen James E. Light Jr. applauds.

Best SAC Missile Maintenance. Col Van Chappel, deputy commander for maintenance at the 44th SMW, holds up the "silver" with the members of the Ellsworth maintenance team as 15th Air Force Commander Lt Gen James E. Light Jr. applauds.

Best Crew Single Exercise and Best Missile Crew — Crew S-280, Grand Forks AFB. From left: Capt Scott Goehring, 1Lt Michael Miller, and Maj Gen E. G. Shuler Jr., deputy chief of staff, HQ SAC Operations.

Best Missile Operations — 321 SMW, Grand Forks AFB. From left: Capt Scott Goehring, 1Lt Michael Miller, 1Lt Edwin Parks, 2Lt Richard Lane, Col Robert Hood, and 8 AF Commander Lt Gen James P. McCarthy.

Best Power-Refrigeration-Electric Team — 44 SMW, Ellsworth AFB. From left: TSgt Harold Blalock Jr., TSgt Ronald J. Morris, Maj Gen John J. Doran Jr., deputy chief of staff, HQ SAC Logistics.

Best Missile Security Police Tactics Unit and Best Missile Security Police Team — 44 SMW, Ellsworth AFB. From left: SSgt Richard Canez Jr., Sgt Richard Bular, SrA Anthony Armbruster, A1C Anthony Albano, Amn Peter Hervoyavich, Amn Eric Shepherd, and 44th SMW Security Police Group Commander Col David Bond.

Peacekeeper missile made this year's SAC meet, dubbed Olympic Shield, a watershed in the competition's history. No Peacekeeper units were represented this year but SAC officials hope Peacekeeper crews will participate in future contests after more of the missiles have been deployed.

The annual missile competition provides an opportunity to refine techniques and procedures, exchange professional information, recognize outstanding individual and team performance and enhance *esprit de corps.*

Any Landing You Can Walk Away From......

Sgt Bill Harrison
HQ SAC/PA

TELEGRAM —
FORT WARREN WY. 5:23 P.M. FEB 21, 1942
JOHN W. LABERTEW

REPORT THIS OFFICE EIGHT THIRTY A.M. FEBRUARY TWENTY THIRD FOR ENLISTMENT. FURLOUGH WILL BE GRANTED IMMEDIATELY. YOU WILL RETURN HOME UNTIL CALLED AT OWN EXPENSE.

Those were just the words 26-year-old John Labertew wanted to read — his lifelong dream of being an aviator was going to come true. But little did he know, before his World War II flying career would end, he would be involved in four crashes and one near miss of a mountain.

But if Labertew had any fear of crashing, he probably wouldn't have enlisted. The Mitchell, NE native had come to work at the post office to finish his recovery from his first airplane accident. He and a friend had crashed a single-engine plane into a field near Scottsbluff, NE in August 1940.

"Clyde Garrett and I were flying his two-place monoplane 800 feet above the ground doing figure eights. It must have stalled out and we spun in — hitting the ground between 95 and 100 MPH," recalls Mr. Labertew, a retired state highway department engineer, now living in Wheatland, WY. He walked away from that accident with several fractured vertebrae, a broken jaw, and internal injuries. A photo taken of the cockpit shows his teeth imprints in the instrument panel.

Not one to be discouraged, even after several months in bed, Labertew came to Cheyenne to finish his recovery and be close to Fort Francis E. Warren (now F.E. Warren AFB). Making frequent special delivery mail runs to the fort, Labertew eventually became acquainted with a post doctor who arranged for him to receive a flight physical. He passed the exam and was soon on his way to Aviation Cadet School.

Nine months into his Army Air Corps training his next crash occurred. Labertew was attending advanced pursuit fighter training at Moore Field in McAllen, Texas.

A journal entry recounts the incident: "I was flying a P-43, which was a heavy wing-loaded fighter with a 2,000 horsepower engine. Upon landing, it became uncontrollable — immediately I knew a tire had become deflated in the air. It began ground looping — quite a thrill at 90 to 100 MPH."

Fearing the plane would nose over and explode, he unsnapped his seatbelt, hit the hatch release and jumped out, landing on his back. This time he was cushioned by a parachute pack. "However, rolling on the ground didn't help my face, legs and arms very much," the journal entry reads.

The P-43 was a total loss, but Labertew wasn't shaken, and flew for another five months before his next close call.

It was an April day in 1943 when he was flying a group of cadets in navigator training to Denver from Hondo, TX. He was flying a Beechcraft AT-10 twin-engine with a seating capacity of six to eight trainees. Flying over Colorado Springs, Labertew couldn't resist the opportunity to take a closer look at Pike's Peak. A journal entry written the next day explains the rest:

"This great force of wind took charge! The downdraft on the downside of the peak forced the ship nose down and spinning down the side of the vertical edge of the peak. As the ship turned, the wing tips didn't appear to be more than five to ten feet from the red-tinted vertical cliff. It appeared as if we were going to hit the ground, however, this great force of air sent us soaring upward and forced the ship over the mountain. . . and I gained control of the ship."

He landed the craft safely at Buckley Field near Denver, where two engine bolts were replaced. His journal entry about the incident concludes: "Never fly close to Pike's Peak. If you ever want your ship dusted out, this is the perfect way to do it!"

It was another 11 months before Lieutenant Labertew found himself piloting a plane on a crash course. This time it was in Big Springs, TX — flying a group of bombadier training school cadets in a Beechcraft AT-11.

There were five cadets with him on this low-level training run, when the aircraft suddenly lost all power. One of the cadets had unknowingly caught his parachute pack on the plane's main power switch located behind the pilot. Lieutenant Labertew did a wheels-up landing under a power line, narrowly missing a windmill, stock tanks, and a herd of cattle. No one was injured, and the AT-11 was back on flying status within a couple of weeks.

The Lieutenant's final crash, and probably most spectacular, turned out to be his last mission as an Army Air Corps pilot.

It was April 24, 1945, and he was assigned to the 504th Bomb Group, on the Pacific island of Tinian in the Marianas. Labertew and the 10-man crew of his B-29 Superfortress bomber were headed for Tokyo with 10 tons of bombs — for special delivery to the Hitachi Aircraft plant.

The mission was going smoothly as the formation of seven B-29's neared their Tokyo target. The B-29's were about 15 minutes from releasing their bombs when things suddenly changed. A barrage of Japanese gunfire caused the B-29 flying alongside Labertew's plane to disintegrate into pieces. Seconds later, Labertew's craft was hit by the flack.

A quick damage assessment showed that both left engines were out, controls weren't responding, and radio, radar and intercom were gone. Japanese fighters were flying nearby, waiting for the crippled craft to stray away from the rest of the pack. The B-29's two remaining engines strained as the large bomber climbed to its 21,000 foot bombing altitude. "All my engine gauges were in the danger zone," wrote Labertew in his journal.

One minute away from the target, the bombadier took control of the bomb run. Soon the bomber was 10 tons lighter — and the Hitachi plant was in flames. "Our formation was spreading out as we wanted to gain speed — and get the hell out of there," wrote Labertew. "I immediately stuck the nose down to gain speed, and in a few minutes our engine gauges had backed off to the normal range."

The lieutenant and his crew limped in the crippled craft to Iwo Jima. They circled the island, waiting for a thunderstorm to move out of the way. Labertew made two landing attempts, but pulled up each time because the bomber pulled suddenly to the left of the runway on each approach.

On the third time around he said to his copilot, "John, I'll fly directly over the field, and those that want to, can bail out." The copilot relayed the message — and received a unanimous answer — "We will stay with the ship if Lieutenant Labertew does.

Once again the craft veered to the left, but Lieutenant Labertew managed to get it on the ground this time. It skidded uncontrollably until it struck a large piece of road equipment and came to rest on top of a row of P-51 fighters.

His copilot pulled him from the burning B-29. They knew there was little time, because of the hundreds of gallons of high-octane fuel still on board. They made it to a waiting ambulance that whisked them away to a hospital tent. The entire crew had escaped the burning wreckage.

A colonel came into the tent to inform Labertew that he had landed the plane with the rudder and vertical stabilizer completely blown away. "You put on the best air show I've ever seen," the colonel remarked.

It was Lieutenant Labertew's last performance because he would soon be heading back home to Nebraska. Having survived four crashes and one near miss, the final entry in his journal reads, "Any landing you can walk away from is a good landing," and 40 years later, John Labertew is living proof of the wisdom of those words.

A BANNER YEAR

1986 marked a significant milestone in the command's safety program. Ground fatalities were reduced to the lowest ever recorded in one year. Significant improvements were reached in virtually every aspect of safe mission accomplishment. These results are based on an energetic commitment to safety and reflect effective programs and managers. When the command makes strides like these, everyone wins.

The Strategic Air Command received the Secretary of the Air Force Safety Award for 1986. This is the highest award in the safety program and is presented for the most effective safety program in all safety functional areas.

Several individuals made particularly noteworthy contributions to earn special recognition.

Captain Jonathan D. George won the Koren Kolligian, Jr. Trophy for his superior skill and airmanship in recovering his U-2R aircraft after a trim system malfunction. He skillfully recovered the aircraft from outside of its flight envelope and despite extreme pain and total physical collapse, saved a critical national intelligence system.

The KC-10 crew, "Gold II" earned the Mackay Trophy for their superior efforts during an A-4 deployment to Europe. Their decisive actions prevented the loss of a KC-10, a KC-130, and six A-4 receivers.

Major Steven P. Hockett, 15th Air Force Directorate of Safety, garnered the Air Force Director of Aerospace Safety Special Achievement Award for his outstanding contributions in the weapons safety program management.

The significant achievements of the 1st Strategic Aerospace Division at Vandenberg AFB earned the Air Force Director of Aerospace Safety Special Achievement Award.

The Air Force Inspection and Safety Center awarded plaques to SAC units in the Flying, Missile, Explosives and Nuclear Surety categories. The units are listed on the back page.

Although these awards recognize SAC's achievements at the Air Force level, the energy and support of numerous individuals throughout the command made these results attainable. Therefore, new awards were created this past year within the command to recognize the outstanding contributions at the wing level.

The Outstanding Safety Office for Aircraft for 1986 resulted in a tie between the 93 BMW at Castle AFB and the 380 BMW at Plattsburgh AFB.

The Outstanding Safety Office for ICBMs in 1986 was the 1st Strategic Aerospace Division at Vandenberg AFB. The 96 BMW at Dyess AFB garnered the Outstanding Wing Weapons Safety Program Award. The individual award winners are shown receiving their plaques at the SAC Safety Management Course.

Congratulations are in order for all who helped make 1986 a banner year.

Cont'd on page 27

Col John T. Jaeckle, deputy IG, presents the Outstanding Chief of Safety (Aircraft) plaque to Major Yoshio Smith, 93 BMW, Castle AFB. (upper left)

The Outstanding Flight Safety Officer plaque was presented to Major Richard L. Druckenbrodt, 9 SRW, Beale AFB. (lower left)

The Outstanding Chief of Safety (ICBM) plaque went to Lt Col Frank P. Lahm II, 44 SMW, Ellsworth AFB. (upper right)

The Outstanding Safety Manager plaque was captured by Mr William E. Allmon, 97 BMW, Blytheville AFB. (lower right)

The Sound

Capt Rob F
410 BMW, K

The day was coming to an end for us as we departed the fixed base operator (FBO) at Traverse City enroute to K.I. Sawyer. The day had been pretty normal for two ACE pilots. We took off in the morning from Sawyer with stops planned at Grissom for lunch and Traverse City for a night leg back home. The weather check at Sawyer revealed deteriorating conditions with 2500 foot ceilings, blowing snow, and an RCR of 7. We contacted the supervisor of flying (SOF) and were advised to make one approach to a full stop. With conditions like those, we agreed!

Takeoff and cruise at 16,000 feet back to home drome was normal. At cruising altitude we were right at the tops of the clouds and weather. In getting prepared for the penetration we briefed the VOR approach with a no-gyro PAR pickup. We decided to do two turns in holding before starting the approach. The approach consists of a teardrop maneuver to the north to land on runway 19. Approach control requested we not make our inbound turn until 20 DME north of the field. 20 DME placed us about 12 miles out over Lake Superior. Having troubles in an airplane over Lake Superior in the middle of November with water temperatures of 40 degrees sent chills up my spine. I had decided to fly the approach from the right seat to improve my confidence level. One of the most challenging things an ACE copilot can do is fly instrument approaches at night in a blinding snowstorm from the right seat. After two turns in holding and flying the outbound leg with no abnormal indications, things began to happen which would change our outlook on flying for a long time to come.

As we started the turn inbound the other pilot was setting the inbound course in the CDI as I flew the airplane. The power was approximately 70% on both engines for the descent when the left engine rpm began winding down to zero. The T-37, commonly referred to as a 2,000 pound dog whistle, suddenly became a 2,000 pound half as loud dog whistle. The sounds of silence were totally deafening. I remember looking across cockpit at a very dimly lit rpm gauge as it wound down through 30% and thought this can't be happening to us.

The reality of a very cold Lake Superior provided the incentive to do something quick. I told the other pilot we had lost the number one engine and his reaction was pretty predictable. We immediately accomplished the three boldprint actions and recovered the engine. It is truly amazing what goes on in a pilot's mind during the heat of battle when placed in a tight situation. My mind instantly reverted back to pilot training standing in a room with an audience of glaring eyes doing standup emergency procedures. I've often wondered why we had to do standup EP's and after that night I finally realize how important they are. If nothing else, the standup EP's help simulate the pressure a person will actually face when confronted with a true emergency. Just like a standup EP, flying the aircraft becomes the number one priority. Following in close second was getting the problem solved. Accomplishing all the cleanup items like declaring an emergency, talking to approach control and providing the number of souls on board, hours of fuel, etc., was the last priority. After declaring an emergency and getting the engine started again, I felt our troubles were over. I could not have been further wrong.

While continuing the approach, I found myself well above the glideslope and about 12 miles out on final. I was trying to get aligned with the PAR final when the number one engine decided to flame out again. Now our minds really began to race. What was causing the problem? Was it ice, bad gas, fuel control...? The boldprint was reac-

# of Silence

r
awyer AFB

complished and another successful relight occurred. By the time we got the engine restarted, we had traveled a couple of miles closer to the base and were still well above glideslope. It was rapidly becoming apparent we had our hands full with little time left to land the airplane. Everything seemed to be falling apart around us. The approach was becoming unsafe because we were so high on glideslope and the number one engine had flamed out twice. Not only that, the field was not in sight because of the snow. Finally, to top it off, the number two engine began to roll back below idle rpm of 36%. Seeing the needle go below 36%, I immediately went full throttle on that engine to try and recover it. Thank God it worked. By this time the analysis portion of the equation was complete. In order to keep the engines running, I had to maintain around 80% rpm. Now came the real challenge of trying to keep the engines running with a high power setting while still trying to get slow enough to configure. The challenge mounted while trying to follow no-gyro vectors along with being well above glideslope in a blinding snowstorm at night from the right seat of the T-37. The decision to fly the no-gyro PAR from the right seat was probably the smartest if not the luckiest decision we made all night. Flying the approach from the right seat allowed the pilot's hands to be close to the starters in case the engines decided to flame out on short final.

At this point in the approach we were about six miles out (approximately the final approach fix) and 2500 feet above our recommended altitude and 20 knots above the gear lowering airspeed. I deployed the speedbrake and leveled the aircraft to bleed off the extra airspeed. With the throttles set at 80% rpm and speedbrake out it seemed to take forever to slow and lower the gear. Once below 150 knots we lowered the gear and our airspeed began to bleed off in a hurry. The next hurdle we faced was the 135 knot flap limitation. As the flaps were lowered the magnitude of our problems diminished. The last major obstacle was being high on glideslope, but this seemed minor compared to what had happened in the last five minutes. I lowered the nose to recapture the glidepath and of course the airspeed began to build. Our only concern was not to overspeed the flaps at 135 knots. I lowered the nose enough to maintain 130 in the descent to recapture the glideslope.

We finally broke out of the weather and saw we were left of extended centerline with the VASI's showing white over white. We were never so happy to see a runway as we were that night. With an 11,000 foot runway we felt comfortable being high on glideslope carrying an extra 20 knots of airspeed. I was not about to move the throttles until the runway was close at hand. Needless to say I landed long, but the stopping distance was not a factor.

No war story would be complete without some lessons learned. Lesson number one is that there are very few situations which require instantaneous action. Take time to analyze the situation and fly the aircraft. Normally your initial reaction to a situation is the correct one. Lesson two is closely related to number one, take whatever action is necessary to keep the airplane flying. Whether it is adding power or changing attitude during emergency procedures, do it. All of these lessons seem elementary, but I'm here to tell you they are true.

About the author: Capt Frazier is currently assigned to crew S-01, K.I. Sawyer AFB. After completing B-52 CCTS in December of 1980, Capt Frazier was assigned to the 42 BMW at Loring where he was a navigator. After graduating from UPT, he completed CCTS in August of 1985 and was assigned to the 410 BMW.

Abort? Who Said That?

Capt Bill Craine
906th AREFS, Minot AFB

Before I get to the meat of the article, which concerns a high speed abort during a touch and go landing, I would like you to reflect on how **your** crew briefs emergency procedures and what **you** plan to say or do in that split second when something is going wrong and the pilot must decide whether to continue a takeoff or abort.

I suspect that some of us have felt a sense of frustration while reading the findings of accident reports. One is left wondering, "If the other crew members had been aggressively helping the aircraft commander, could the mishap have been prevented?" These thoughts can translate to, "If the pilot is not accomplishing a required action, other crew members should direct that action." In the case of takeoffs, I have heard an increasing number of briefings which allow any crew member seeing an "abort malfunction" to call for the abort over interphone. The malfunctions are not defined, which leaves crew members relying on their own judgement and experience to decide when to direct crew actions.

With the stage now set I'd like to give an example of why letting any crew member direct crew action is not a smart idea. Our high speed abort occurred in a KC-135A, but the lessons learned apply to any crew aircraft. My evaluator crew was receiving their 60-4 evaluations during a night flight. Our touch and go briefing placed the decision to abort point as power set at touch and go EPR (with a catastrophic failure, we could abort up to rotate). The first approach began at midnight with a 150,000 pound aircraft, 30 degree temperature, 1550 pressure altitude, VMC weather, bird condition yellow and a dry runway. As the IP in the right seat I made a normal touchdown and reconfigured for the takeoff. While pushing up the power and passing reference speed, the pilot in the left seat called "number four EPR not coming up." The navigator, interpreting this as an indication of loss of thrust prior to decision speed called "abort!" Since it occurred before briefed decision speed and recognizing the aircraft's ability to stop in the 8000 feet remaining, and being unsure of the nature of the malfunction or if the evaluator was directing the abort, I elected to abort the takeoff. A few exciting seconds, two popped tires and a good case of hot brakes left the crew reviewing what had happened while mingling with the fire assistance.

Our first concern was whether an abort was the safest action. While we demonstrated the aircraft's ability to stop, universal opinion held the better course was to get airborne. Given the weather and gross weight, our two-engine, gear down climb rate was 400 feet/min. An undetermined malfunction of one engine then, was not a great concern. Already at flying airspeed in a controllable aircraft we could have easily climbed to a safe altitude and assessed the situation. Is the problem real or only in the indicators? Are systems other than engines involved? Could landing roll be affected? Do the new abort procedures really want the pilot flying the aircraft (in this case the right seat) to apply brakes simultaneously with throttle reduction? These are only a few of the questions we could have answered airborne.

With the cold hand of experience on my shoulder, I would like to make these recommendations. For touch and go landing, consider altering your decision point based on aircraft performance and runway conditions, and then clearly brief the crew. I believe my decision point will now be considerably earlier in the ground run. For aircraft commanders, solicit information from your crew but always retain your responsibility to direct action. Look outside and verify that something is wrong. Especially during a touch and go, an engine problem will affect aircraft performance and cause a deviation away from the centerline which can be compensated with rudder. If there's no apparent deviation in aircraft performance, get airborne and do your troubleshooting once you're stabilized and level. Your experience and feel for the aircraft provides the best basis for a decision. When you make a split-second choice, use the interphone and direct crew actions—the crew is counting on your leadership. For other crew members, by all means be aggressive in identifying malfunctions and monitoring the flight path. "Who is flying the aircraft?" "check airspeed," "watch your bank angle," "number two generator light," are excellent interphone calls. Do not, however, direct crew action. The confusion created will negate any time saved. Provide the pilot with the best information you can and wait for his decision.

The loss of an hour transition and cost of two tires is a small price to pay for the experience my crew gained during this high speed abort. I hope you can benefit from my experience.

What's In a Mishap?

Captain Hastings J. Lamb III
341 SMW Malmstrom AFB

A recent missile mishap had all the makings of a good, if you can call it that, example of disregard for safe working practices. During a brine chiller removal and replacement (R&R) at a launch control equipment building (LCEB), an individual involved in part of the R&R procedure was seriously hurt. The person's right hand became pinned beneath the chiller frame and three fingers were crushed. Part of the long finger was severed at the first joint and tips of the index and ring finger crushed. How did it happen and what can we learn from someone's misfortune?

Approximately three years ago, the brine chiller system underwent modification requiring total replacement with a new unit. Depot personnel accomplished the entire procedure and SAC personnel were not involved. As time passed, the system began breaking down requiring R&R of the brine chiller unit. The R&R procedure required specific equipment to facilitate movement of the unit from the LCEB to topside and return at the Launch Control Facility (LCF). Unfortunately, this equipment was not available at the wing and the depot item manager did not have sufficient items available to accomplish the chiller R&R. Consequently, the shop NCOIC decided to obtain a substitute for the required equipment.

In the process of obtaining the substitute equipment, the shop NCOIC failed to note that the Technical Data did not authorize such substitution. Additionally, after obtaining the equipment, he did not submit an AFTO Form 22 to the Technical Data. The equipment was not tested to insure compatibility and neither safety nor maintenance quality assurance was advised of the situation. The shop NCOIC decided to accomplish the brine chiller R&R as a matter of expediency.

The appropriate maintenance team was scheduled to accomplish the task. A task supervisor was appointed and a crane operator assigned from a different shop since the originally tasked shop did not have one available. The crane operator was not trained in the chiller R&R procedure. The task proceeded well until the chiller unit was brought from the LCEB to the LCF topside. Murphy's Law ran amuck!

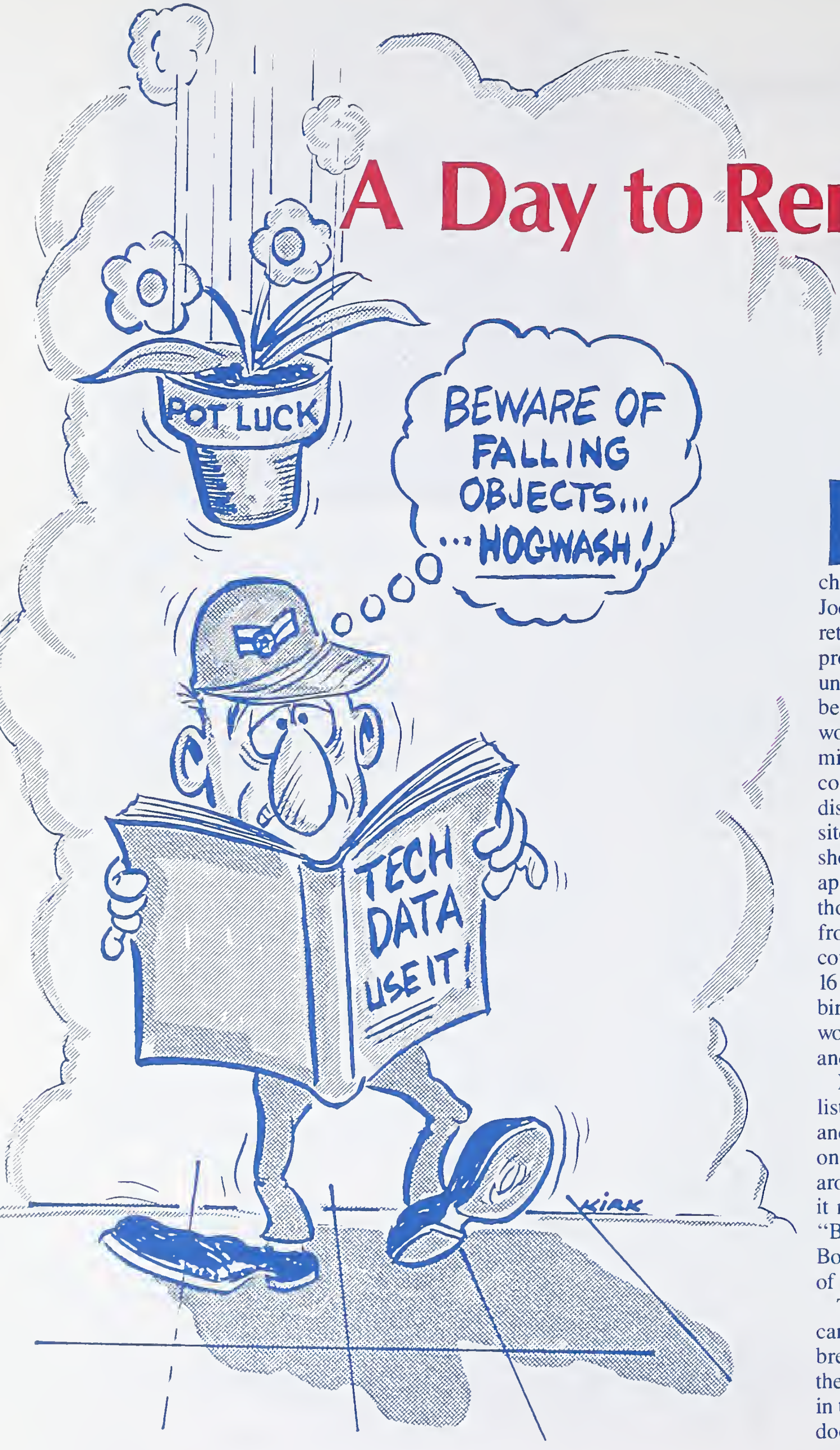
As the chiller unit was brought into position for removal from LCF topside, the unauthorized equipment (roller dollies) began to slip from beneath the chiller unit due to uneven floor surfaces. The rollers relied on friction to stay in position and had no attachment capability. The crane operator was assisting in the positioning procedure when a roller on his side slid from beneath the chiller unit. The task supervisor obtained a wooden 4x4 and prybar to attempt repositioning of the roller. During the attempt another roller slid from beneath the chiller frame front. In the process, the crane operator inadvertently positioned his right hand beneath the chiller frame in an attempt to balance himself. The chiller dropped and trapped the crane operator's right hand against the floor resulting in the crushing injuries.

So, what can we learn from this incident?

- Follow Technical Data — Explicitly!
- If the T.O. is wrong, inaccurate or not current — Submit an AFTO 22!
- Don't let expediency overrule safe work practices!
- Task supervisors should supervise and let workers do the work!
- Don't allow unqualified personnel to perform tasks!
- Don't put parts of your anatomy in a "Pinch Point!"
- Use common sense!

About the author: Captain Lamb has been associated with the Minuteman system since 1964. After OTS he was a Missile Maintenance Officer and later volunteered for Missile Combat Crew duty. Captain Lamb has been a Senior Flight Chief in the 12 SMS at Malmstrom AFB and later served as the Wing Nuclear Surety Officer. In December 1985, Captain Lamb was appointed as the Wing Missile Safety Officer and Chief of the Weapons Safety branch.

A Day to Remember


POT LUCK
BEWARE OF FALLING OBJECTS... ...HOGWASH!
TECH DATA USE IT!
KIRK

Lt Col Frank P. Lahm II
44 SMW, Ellsworth AFB

It was 0500 and Joe was mentally reviewing the schedule for the coming day. It promised to be a busy one. First of all, the shop chief had insisted on a meeting at 0515. Joe had heard the shop chief had returned from the DCM's office late the previous night after a particularly unpleasant scene. "You can bet it will be passed on," thought Joe. Then there would be an hour's worth of recurring missile safety training before the team could even start getting ready to dispatch to the field. Finally, since four sites were down, the two teams in the shop would have to pick up two sites apiece, and that meant a full day. He thought of the two hour drive to and from the furthest site and hoped he could make it back before breaking the 16 hour timeline. Little Joe had a birthday party this evening and his wife would be disappointed if he had to RON and she had to run the party alone.

Halfway to the shop, he reviewed the list he needed to bring up for the day, and he recalled leaving his line badge on the dresser. As he swung the car around, he realized he would be cutting it mighty close for the shop meeting. "Better late than without the badge. Boy, I hope this isn't a sign for the rest of the day," he thought.

Ten minutes later, as he parked the car outside the shop, he noticed the breakroom was crowded. "Uh oh, they've already started. I'll have to slip in the back way." As he quietly shut the door behind him, wishing he were invisible, the shop chief's baleful eye fell on him. Everyone was sitting down. The look was followed by a short heated verbal blast, the gist of which, aside from the reference to his genealogy, made it clear that the shop meeting was a reflection of what had gone down in the DCM's office the evening before. It was apparent that the chief felt that his lateness was symptomatic of the entire shop's problem. Though the blast rankled, he decided the wisest move was to sit down quietly. He'd have to clear the air later.

The DCM had informed all the branch chiefs that the quality of work as well as the timeliness were unacceptable and that starting today the maintenance complex would be on double shift. There would be no leaves, weekends, or days off until the situation improved. Boy, was that going to wreak havoc on the home front. His wife was looking forward to the two week leave starting next Monday. The airline tickets were sitting in his desk drawer. How to break the news. . . .

His reverie was interrupted as the shop meeting broke up with the shop chief asking Joe to meet him in his office. "Great, now all I need is another chewing out!"

"Joe, as you can tell I'm not too pleased with your lateness this morning. I had been thinking of moving you up to team chief, but that will have to wait now. Furthermore, your leave next week will have to be postponed, the colonel was adamant that all leaves be cancelled. You'll be going to I-10 today. Do whatever you have to, but bring it back up today. I don't care if you have to work on it all night, they want it up today. You can go now!"

Joe was burning as he left the office. "That sorry *#$%†&* wouldn't even give me a chance to plead my case", he thought angrily.

He hurried to the training classroom. He barely heard the instructor drone on about how the backout checklist had been pulled for revision. "All it means is another damn book to carry out and back." As usual, Joe aced the recurring test and then gathered with the rest of the team to organize for departure. The team chief quickly handed out the assignments and everyone scattered to gather tools and equipment. Joe was sent to pick up the T.O.s for the day's tasks.

Predeparture was uneventful, as was the interminable wait to get codes for site entry. The team was on the road when Joe recalled the 110-12 T.O. The team chief was annoyed to hear it had been left behind. "But we'll accomplish it from memory, or if we have to, we'll call the nearest site and have them read the steps over the site net," he said.

Site entry went smoothly. As they began lowering the equipment down the Personnel Access Hatch (PAH), Joe noticed the lowering rope was badly frayed. A search of the equipment trailer turned one up just as one of the team cried, "Watch out!" as the tool bucket fell. Fortunately, none of the tools were damaged and they found them all, so they pressed on. The generator was installed without a hitch and the team worked efficiently to restore power to the site. By now, it was close to 1630 and the team was hurrying to finish and get on the road before the timelines ran out. No one wanted to RON, it seemed that everyone had plans for the evening. The team chief sent Joe and one other member to Launcher Equipment 2 to clean up and begin backout procedures. The new lowering rope worked well as they removed all the extra equipment. Both men checked all the steps of the backout procedure. Since time was short, they decided to forego the call to the nearest site and do the procedure from memory. "After all we've done it enough." But in the hurry to remove equipment and complete the backout, they managed to skip step three, "K-2 Emergency Supply Fan Switch set on. . ." It was 1730 before they finally managed to drive away from the site. Everyone was dragging by the time they reached the Main Support Base. They turned in all the equipment and proceeded home. The birthday party was in full swing when Joe got home. He decided to wait to break the news of the cancelled leave.

Two days later, as he'd just concluded a stormy discussion with his wife over the cancelled leave, Joe received a call from Job Control. The backup team was forming at 2100 to respond to a complete power outage at I-10. It seems that commercial power went down and the backup generator had failed to start, so the site had gone on battery power. After 45 minutes on battery power, the site had gone Launch Facility Out. The team formed up and departed the Main Base.

Upon entry to the site, they discovered smoke in both levels of the equipment rooms. As soon as they had established that no fire existed, they began to check the position of the site controls. They found the generator had overheated and that six drawers on the Facility Power generator had melted. Joe experienced a terrible sinking feeling as a member announced he'd found the K-2 Emergency Supply Fan switch set off. His mind flashed back to his last visit to I-10. "Maybe we'd have been better off to go back for the T.O. . . . ," he thought.

Two weeks later, as the colonel read the Article 15, Joe remembered a statement made during tech training. "You may find that you don't have time to do something right the first time, but believe me — it's better to take that time than to have to go back and redo the whole task plus fix whatever broke because you didn't do it right the first time."

USE YOUR TECH DATA, IT WILL KEEP YOU OUT OF TROUBLE.

About the author: Since commissioning in 1969, Lt Col Lahm progressed from crew commander to Wing Standardization Missile Combat Crew Commander Select, and finally to the Safety Division as Missile Safety Officer. He has been the MAJCOM Missile Safety Officer and the Systems Safety Officer for the initial Peacekeeper test launches. Lt Col Lahm has served as a Launch Operations Officer, Chief of Safety and finally Director of Operations of the Space and Missile Test Organization. He is currently the Chief of Safety at Ellsworth AFB.

There I was. . .

1Lt Kyle Smith
912 AREFS, Robins AFB

In the year I have been in SAC, I have become an avid reader of Combat Crew and especially of the "There I was. . ." articles. I always think about what must have been going through the crew members' minds and how they reacted during each emergency situation. I often wondered how I would react if I were in their boots. Being a relatively new pilot, I hadn't been in any real tight situations until suddenly, without warning, There I was. . .

Our KC-135A crew had been TDY to the European Tanker Task Force at RAF Fairford for about a week. The aircraft commander and the boom operator were both instructors with plenty of time and TDYs under their belts. For the navigator and myself it was our first deployment. Needless to say we were all enjoying the great flying.

Our fourth sortie of the week was a night sortie to refuel A-10's on a typical Fairford profile; blast up to altitude prior to the airways going through Daventry, orbit and pass gas to the fighters, then turn around and drop like a brick to pass under the airways to an approach and full stop landing.

We were as busy as one-armed paper hangers as we completed the water augmented takeoff, flew the SID, met our altitude requirements, and switched radio frequencies a half dozen times (we could almost understand the British controllers). We were happy to relax in the orbit while we refueled the A-10's and planned our descent and approach to Fairford.

The descent and approach are almost as difficult as the takeoff and departure because ATC must hold you at altitude for crossing traffic before asking you to make a rapid descent to duck under the airways. Otherwise you must accept excessive vectoring to ensure traffic separation. In short, it gets rather rushed.

Since the aircraft commander got the takeoff, I would get the landing. We got down to altitude and were vectored to an ILS final. We finished the checklist and ran through a safety check to make sure we weren't missing anything. The weather called for a ceiling at 1000 feet, three miles visibility with rain and a six knot crosswind. I was settled down on the approach and was doing great when we reached decision height.

"Crew, at decision height, going visual for landing."

I was slightly right of the final approach course and tried to correct back with rudder and a little aileron. The rudder wouldn't move.

"Have you got your feet on the rudders?"

The aircraft commander tried his pedals. They were initially stiff but started to move.

"No, you just need more left rudder."

By this time I had already corrected back to centerline using ailerons and we were crossing the runway threshhold. As I started the landing flare, the plane started to drift right in the crosswind. Again I tried to correct with rudder but the pedals wouldn't move. I put in a slight bit of left aileron to try to slow the drift when the rudder jerked left. As it jerked, I took out the aileron input and the left wing started rising quickly.

"Go around!" came from the boom operator sitting in the jump seat. I considered it for a split second, but was unwilling to risk it with the wing high condition and the uncertainty of what the rudder might do. Instead, I used the ailerons to level the wings, then released some back pressure to plant the plane on the runway. We hit solidly but under control. I lowered the nose quickly to try to get some directional control. The rudders were still frozen and the plane was starting to veer to the right toward the edge of the runway.

"No rudder!" I said over interphone. The aircraft commander gave a quick try with his rudders before using the nosewheel steering and left brake to keep the plane on the runway. The runway lights and grass were coming up mighty fast (Fairford's runway is only 200 feet wide), before he was able to get the plane moving back toward the centerline. We stopped in plenty of time and taxied clear of the runway.

In addition to calling Command Post to change our Code 1 maintenance status we tried the rudders as we taxied. They seemed extremely stiff but movable. By the time we reached the chocks, however, they would not move at all. When maintenance came on board, they freed up again but we could feel binding as the pedals moved.

During debrief the crew tried to figure out if we had done anything wrong in the rush to get down. The autopilot was disengaged, the rudder power was on and the pressure was in the high range. There was nothing in the 781 to indicate a rudder problem. This was the same plane we had brought over from home, without experiencing a single problem. We filled out an Aircraft Mishap report along with the rest of our paperwork and went back to the VOQ—all of us a little shaken over what had just happened.

We learned the heart of the problem later from maintenance. Tension on the rudder control cables was 60 pounds low, rudder control system out of rig, rudder trim cable tension low, trim system out of rig, and rudder centering spring out of rig. The low tension in the cables and misrigging of the system caused the cables to slip off the pulleys and bind. There was no way of knowing what the problem was from the cockpit except that the rudders didn't work—that was enough for me.

Well, I got to see what it was like to be in a "There I was. . ." situation. I don't mind if it never happens again. My only thought was to fly the airplane, though I'm sure with a little more concentration than usual. Being rushed on the penetration and approach made us a little more attentive than if we had been flying the usual lazy enroute descent down to a familiar approach at a familiar field. That added awareness might have just made the difference. You never know when you might be in a "There I was. . ." situation. Hopefully, if it happens to you, you'll be able to write about it afterwards.

PROFESSIONAL PERFORMERS

Flying Crew

Crew E-24, consisting of Capt Roger Mostar, AC; 1Lt Patrick McCabe, P; Maj Richard Isaacks, IP; Maj William Thacker, RN; Maj Thomas Olson, IRN; 1Lt Michael Yemec, N; 1Lt John Norris, EW; and Amn James Aikman, G; 379 BMW, Wurtsmith AFB, is SAC's Flying Crew of the Month.

Immediately after gear retraction on a B-52G training flight, Capt Mostar noticed a fire warning indication on the no. 3 engine. Capt Mostar maintained wings level, continued to climb, picked up flap retraction airspeed, and informed the crew of the situation and his intention to delay boldface actions until the flaps were retracted and a safe altitude obtained. After the flaps were retracted, Capt Mostar shut down the no. 3 engine using the engine fire boldface and a 305 KIAS, seven-engine climb was established. After leveling off at 17,000 feet, the remaining emergency checklists were accomplished and the appropriate agencies notified. About 1.5 hours of flight time was required to reduce the aircraft's gross weight to a safe landing weight of 290,000 pounds and a 10,000 foot orbit altitude was established for this purpose. The crew's defensive team maintained contact with the command post and shut down their electrical systems to reduce the load on the remaining generators, while the offensive team kept the aircraft clear of restricted airspace. After computing seven and six engine landing data, Capt Mostar flew a seven engine ILS approach to a full stop. Later, when maintenance opened the scorched no. 3 engine cowling they found a bolt sheared from the bleed air distributor block allowing the pressurizing and dump valve to leak fuel into the cowling. The leaking fuel was ignited and the engine fire ensued. However, early detection and action by the crew in this emergency kept the fire contained to a relatively small area forward of the fire seal and prevented a self-sustaining fire and major engine damage.

Missile Crew

The 351 SMW Crew E-174, 1Lt Dennis R. Benson, MCCC and 2Lt Steven E. Wacksman, DMCCC is SAC's Missile Crew of the Month.

Crew E-174 had encountered responsibility for two missile flights, rapid changes in missile status, many weapon system anomalies, and heavy maintenance activity. The crew started out with a Missile Operational Status Response (MOSR) 19, a Standby NOGO, outer and inner zone security situations, lost missile status monitoring, a RIVET MILE deposture, launch facility (LF) status out, and LF NOGO. The crew completed appropriate checklists and declared the proper security situations. During response to one of the security situations the Alert Response Team (ART) reported seeing smoke coming from the LF support building. Implementing contingency procedures, Crew E-174 evacuated the ART 500 feet upwind, established a temporary entry control point, ensured site security was being maintained, and notified the appropriate base agencies for emergency support. The emergency team quickly brought the fire under control which was caused by a faulty motor generator. Due to the calm, professional and quick reaction on the part of Crew E-174, damage to a vital element of our strategic deterrent force was minimized and the potential for personnel injury was limited. During the remainder of their alert, they processed 26 maintenance teams onto LFs in the two flights, reacted to numerous security violations and controlled and monitored the activities on several penetrated LFs.

Missile Maintenance

TSgt Harold Blalock Jr., 44 SMW, Ellsworth AFB, is SAC's ICBM Maintenance Airman of the Month. Assigned to the team training branch, TSgt Blalock has excelled in many areas. As the power/environmental control system trainer custodian, he maintained a virtually error-free hardware record. Through the suggestion program, he submitted a proposal that the auxiliary power unit for the re-entry vehicle/guidance control vans be coded for recycle instead of being discarded. TSgt Blalock has maintained an impressive 98.7 percent evaluation pass rate for his entire 13 year career. Noted by the IG as ". . . best seen to date," TSgt Blalock rewrote all FMT lesson plans into a superior format, stressing demonstration/performance methods. With only seven instructors, he developed a plan to simultaneously train three initial teams and accomplish all special and recurring training.

Munitions Maintenance

Sgt Duane L. Brubaker, 2 BMW, Barksdale AFB, is SAC's Munitions Airman of the Month. As the training NCO for the conventional munitions branch, Sgt Brubaker is responsible for the qualification and proficiency training of 48 assigned personnel as well as the inspection, assembly, and preparation of BDU-38 practice bombs. Sgt Brubaker's technical prowess is attested to by 15 error-free Quality Assurance evaluations. Two of these evaluations were rated outstanding. He has been one of the key players in the operational test and evaluation of newly developed munitions in a series of "Short Trip" missions. His efforts contributed to the testing of both the FMU-130 and FMU-139 fuses, as well as the DSU-33 sensor. Sgt Brubaker also worked out an efficient assembly procedure for the Gator Bomb by borrowing from his knowledge on more standard munitions. His efforts in the Short Trip program have garnered his praise from the HQ SAC staff, and contributed to SAC's ever growing conventional capability.

Aircraft Maintenance

SSgt Robert S. Riegert, 384 AREFW, McConnell AFB, is SAC's Maintenance Airman of the Month. As the floor walker in the jet engine intermediate maintenance (JEIM) shop, SSgt Riegert is responsible for both the quality and timely completion of each jet engine produced by his squadron. The JEIM shop prepares four to five engines per month. Each engine takes approximately 10 to 15 days to complete, compared to the 22 days recommended by the technical orders, and SSgt Riegert has never released a faulty engine. He was recently selected to repair an F-108 engine with quick engine change kit slated to be used as the gold plated engine to calibrate the first T-9 test cell in the Air Force. SSgt Riegert was also selected to complete the first number three bearing change on the F-108 engine in the Air Force. He proved that this particular maintenance procedure could be done on the wing without removing the engine. The procedure developed by SSgt Riegert has been accepted by HQ SAC and General Electric, the engine manufacturer. The Air Force has completed 36 of these changes error free, thereby saving the Air Force millions of dollars.

Missile Maintenance

Munitions Maintenance

Aircraft Maintenance

Flying Crew

Missile Crew

Missed Approach Considerations

Maj Gregg Fonner
SIFC, Castle AFB

We've just flown an eight hour mission. There are enough gremlins in our plane that it feels like a flying Steven Spielberg movie. The approach has been flown to minimums and we can barely see the instruments, let alone the runway. . .what are we going to do? Sounds like time for a missed approach! So let's take a look at: the ground rules for designing a missed approach; how it's depicted on the instrument approach procedure (IAP); and finally the relationship of the missed approach to climbout instructions.

First, let's take a quick look at some ground rules. AFM 55-9 (TERPS) says the missed approach point (MAP) will be placed no further than the usable landing surface (in other words, the first brick you can land on) and not prior to the VDP. Of course, there are exceptions to any rule. For example, if we fly a VOR approach with no final approach fix (which requires the NAVAID to be "on the field"), the MAP will be station passage over the NAVAID itself. In this case the MAP could be as far as the departure end of the runway!

The procedure must be simple, specify an altitude that will permit holding or enroute flight, and whenever practical take you to a clearance limit. The "best" missed approach procedure is one which takes you back to the IAF and puts you in a position to shoot another approach. **(See figure 1)** Sometimes, however, you end up in a missed approach holding pattern. Even worse, some missed approach procedures take you "nowhere." **(See figure 2)** All's fair as long as you can negotiate further clearances, but problems can arise when the radio goes silent. When a clearance limit is not specified, you need to think about lost communications. (Some base flying regulations specify actions to be taken if you lose communications.) In cases where there is no written guidance or you are flying at an unfamiliar field, you are left with pilot judgment. In VMC, proceed VFR and land. In IMC, our best advice is to intercept an arc and fly the depicted missed approach altitude or minimum sector altitude, if higher, until intercepting the desired instrument final to a full stop. This will require some preflight planning since we need to consider the environment around the airfield. The IFR Supplement and Area Planning documents (for supplementary airdrome remarks) might help.

The TERPS protected airspace starts at the MAP and at the DH/MDA, minus the required obstacle clearance. For this reason, if you go missed approach past the MAP and/or below the DH/MDA you may be outside the obstacle clearance area or below the obstacle clearance surface. We need to be careful in this situation and execute some pilot judgment based on the facts since the 152 ft/nm climbout gradient normally required may no longer avoid obstacles if we go missed approach past the MAP or below the DH/MDA. What we're talking about here is having a plan of attack well ahead of time that is thoroughly thought out. Rhetorically speaking, would you know what to do if you decided the landing was not going to work out and you went missed approach two-thirds down the runway and the MAP was behind you by that same distance? If it is a turning missed approach you could be in some serious hot water. As long as we go missed approach at the depicted point and altitude we must maintain a 152 feet-per-nautical mile gradient (unless depicted higher).

The turns on a turning missed approach are designed to provide obstacle clearance based on turn radius for each category of aircraft. The protected airspace starts at the MAP and is based on a 30 degree bank turn at approximately 250 knots for a Category D aircraft, and approximately 300 KTAS for a Category E aircraft. So, if we remain below these speed parameters, assuming the aircraft started the turn at the MAP, we'll remain within the missed approach protected airspace. Unlike the circling approach, which has different altitudes for each category, the missed approach has only one altitude good for all categories depicted on the approach plate. This means a problem can exist when Category D aircraft fly a turning missed approach faster than 250 KTAS. If the approach has no Category E minimums, the fast flying Category D aircraft will exceed TERPs designed flight path and may exceed the obstacle clearance protected airspace on the turning missed approach. Remember, you're safe to begin a climb prior to the missed approach point, but if a turn is published DO NOT START the turn until reaching the MAP.

Now let's look at how we can determine the MAP — it can be determined in a variety of ways.

1. If a DME is published at the MAP on a non-precision approach, then it is the primary means of identifying the MAP. Incidentally, the pilot cannot figure out a DME if one is not depicted.

2. If no DME is published at the MAP, then timing is used to determine the MAP.

To determine the location of the MAP, note the distance "definition" from the FAF to the MAP printed above the timing block on the IAP. Compare this distance to the distances depicted on the profile view, from the FAF towards the runway. Whatever is listed above the "defined" distance will then become the "defined MAP." If there is nothing shown (DME or middle marker) then timing is all you have. As a reminder, the middle marker (MM) by definition is located at or near the point on an ILS course where the aircraft reaches decision height. If the MM, assuming one is installed, is the same distance as we saw in the timing block, then the MM can be used as a BACKUP to DME or timing. If it is not the same distance as the non-precision MAP, then it cannot be used at all. Remember, the MM cannot be used as the sole means of determining the MAP. Think of it this way. There is no way to preflight your marker beacon, so the only way to know if it is going to work is when you cross the marker on the approach. Without DME or timing, if the MM doesn't work, you'll never know you passed the MAP.

A final word about MAP depictions on the IAP — the dark line stops and the hashed line (the missed approach track) begins depicting the MAP for the non-radar approach with the lowest HAT.

Let's tie this together by looking at the ILS or NDB RWY 15 at Robert Gray AAF. **(See figure 3)** Looking at the IAP, we now know what the depicted missed approach track must be for the ILS or NDB, whichever has the lowest HAT. In our case it is the ILS at 200 feet.

Figure 1

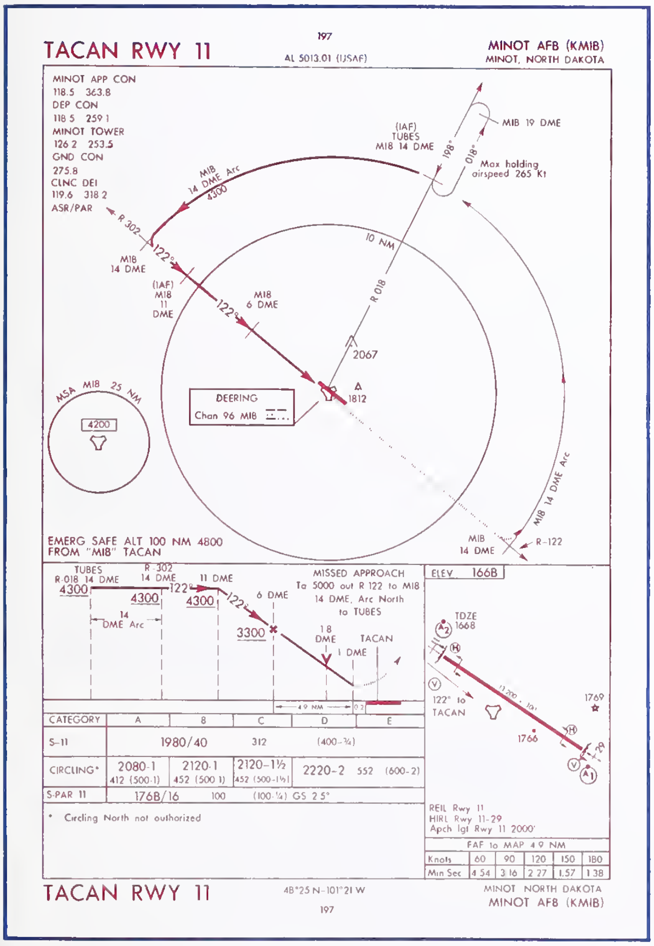


Figure 2

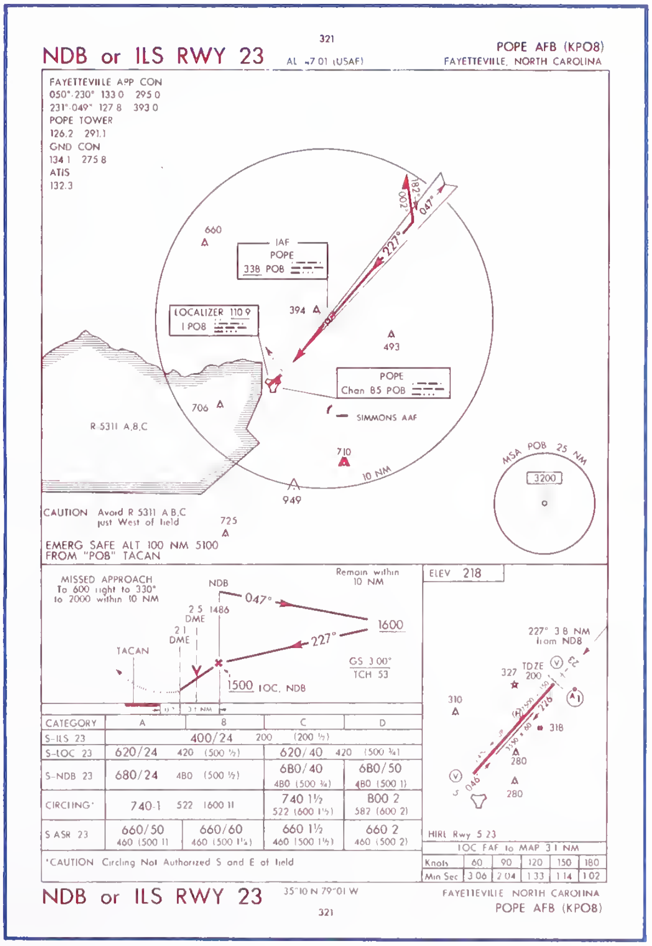
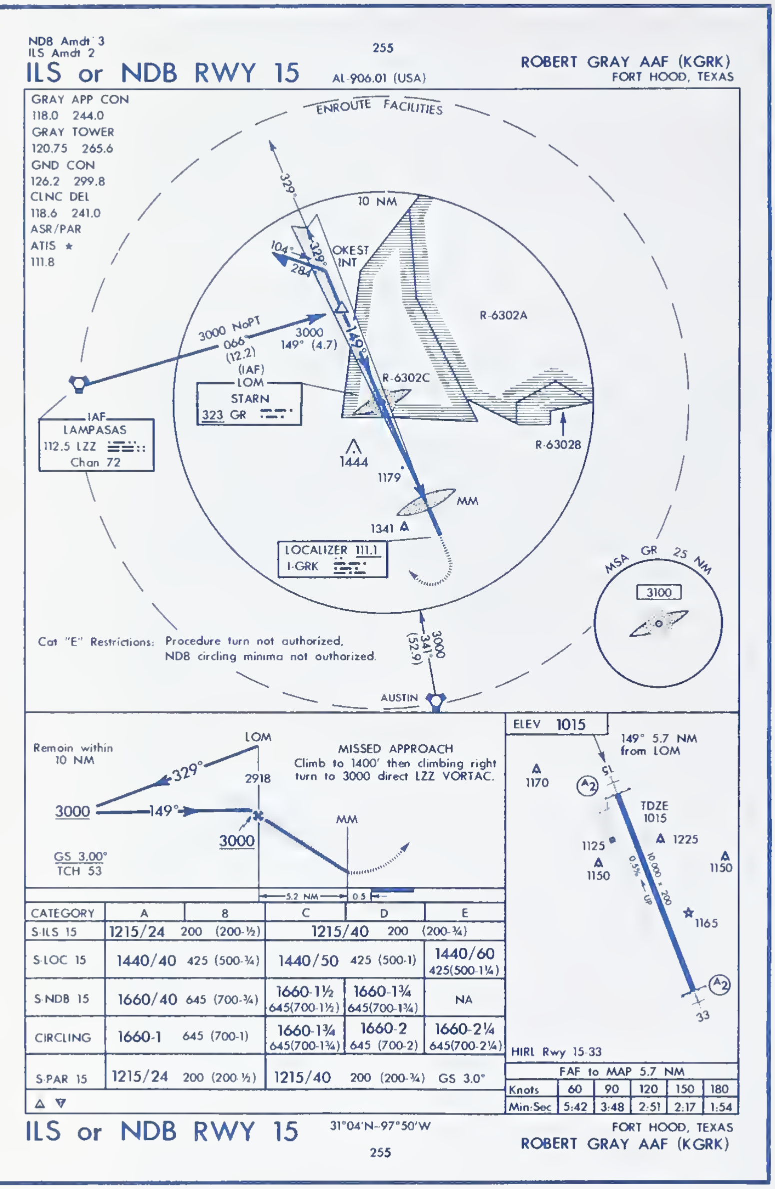

NDB or ILS RWY 23
321
AL 47 01 (USAF)
POPE AFB (KPOB)
FAYETTEVILLE, NORTH CAROLINA
FAYETTEVILLE APP CON
050°-230° 133.0 295.0
231°-049° 127.8 393.0
POPE TOWER
126.2 291.1
GND CON
134.1 275.8
ATIS
132.3
182°
002°
047°
227°
660
IAF POPE 338 POB
LOCALIZER 110.9 I-POB
394
493
POPE Chan 85 POB
SIMMONS AAF
R-5311 A,B,C
706
710
10 NM
949
MSA POB 25 NM
3200
CAUTION Avoid R 5311 A,B,C just West of field
725
EMERG SAFE ALT 100 NM 5100 FROM "POB" TACAN
MISSED APPROACH To 600 right to 330° to 2000 within 10 NM
NDB
Remain within 10 NM
047°
2.5 1486 DME
2.1 DME
TACAN
1600
227°
GS 3.00° TCH 53
1500 LOC, NDB
3.1 NM
ELEV 218
CATEGORY A B C D
S-ILS 23 400/24 200 (200-½)
S-LOC 23 620/24 420 (500-½) 620/40 420 (500-¾)
S-NDB 23 680/24 480 (500-½) 680/40 480 (500-¾) 680/50 480 (500-1)
CIRCLING* 740-1 522 (600-1) 740-1½ 522 (600-1½) 800-2 582 (600-2)
S-ASR 23 660/50 460 (500-1) 660/60 460 (500-1¼) 660-1½ 460 (500-1½) 660-2 460 (500-2)
*CAUTION Circling Not Authorized S and E of field
227° 3.8 NM from NDB
TDZE 200
327
310
318
280
280
046
HIRL Rwy 5-23
LOC FAF to MAP 3.1 NM
Knots 60 90 120 150 180
Min Sec 3 06 2 04 1 33 1 14 1 02
NDB or ILS RWY 23
35°10 N-79°01 W
321
FAYETTEVILLE NORTH CAROLINA
POPE AFB (KPOB)

Figure 3



NDB Amdt 3
ILS Amdt 2
ILS or NDB RWY 15
255
AL-906.01 (USA)
ROBERT GRAY AAF (KGRK)
FORT HOOD, TEXAS

CATEGORY	A	B	C	D	E
S-ILS 15	1215/24 200 (200-½)		1215/40 200 (200-¾)		
S-LOC 15	1440/40 425 (500-¾)		1440/50 425 (500-1)		1440/60 425(500-1¼)
S-NDB 15	1660/40 645 (700-¾)		1660-1½ 645(700-1½)	1660-1¾ 645(700-1¾)	NA
CIRCLING	1660-1 645 (700-1)		1660-1¾ 645(700-1¾)	1660-2 645 (700-2)	1660-2¼ 645(700-2¼)
S-PAR 15	1215/24 200 (200-½)		1215/40 200 (200-¾) GS 3.0°		

△ ▽

FAF to MAP 5.7 NM

Knots	60	90	120	150	180
Min:Sec	5:42	3:48	2:51	2:17	1:54

ILS or NDB RWY 15
31°04'N-97°50'W
255
FORT HOOD, TEXAS
ROBERT GRAY AAF (KGRK)

Even if the PAR had a lower HAT on this approach, it would not count because published missed approach procedures are written for non-radar approaches. Looking at the timing block we see that the non-precision approach is 5.7 NM from the FAF to the MAP. Comparing this to the profile view, we can see it is 5.2 NM to the ILS and MM, and an additional .5 NM to the non-precision MAP. Thus, with no DME depicted, timing is the only way to determine the non-precision MAP. Since the MM is not coincident it cannot be used in conjunction with timing. The question may come up, "If there is a half mile between the MAPs, how am I protected on a turning missed approach?" The TERPS specialist will look at the earliest and latest points you can go missed approach and protect you from both. In our previous example the earliest point would be 5.2 NM and the latest 5.7 NM.

An often maligned, misunderstood, misnamed and generally overlooked item is climbout instructions. When issued they supersede published missed approach instructions and constitute an ATC clearance. Most bases have their climbout instructions published in the base flying regulations, thus "comply with the local climbout" is all you need to hear. If weather conditions are encountered that preclude you from executing the climbout instructions (i.e., your climbout instructions contain VFR restrictions or action points, and you can't see them in order to comply), start to execute the published missed approach and INFORM ATC! The important thing here is that although we are flying the missed approach, we are not cleared for it . . . climbout instructions were our last ATC clearance. While the published missed approach is keeping us clear of obstacles, it might not be keeping us clear of other aircraft! We need to talk to ATC to see where the controller really wants us to go. The bottom line comes down to communications. Since there is often a significant difference between climbout and missed approach ground tracks and altitudes, make sure ATC knows which one you are flying or a traffic conflict could arise. No matter what sent us back to "radar," if we can comply with climbout instructions we do so, and tell the controller "executing climbout."

Well, this is one time I've been able to write about a MAP and no one told me "Hey pilot, it's a chart — not a map! If you want a map go to a gas station." To keep us from ending up in that gas station, a tower or the side of some cumulo-granite, we need to be sure of exactly where the missed approach point is, how we identify it, and what to do when we get there. In the weather, failure to initiate proper timing or relying solely on the middle marker could result in an abrupt disappointment. Finally, since climbout instructions are an ATC clearance and supersede the published missed approach, it is important that we know which to use and communicate the proper information to ATC. If you want to read more, see AFM 51-37. Give us a call at AV 347-4571 if you have questions.

About the author. Maj Fonner is a 3700 hour KC-135 IP assigned to SIFC. In addition to his two years at SIFC, he's been a CCTS flightline IP at Castle AFB, KC-135 IP at Beale AFB and a T-38 IP at Reese AFB.

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308 SMW Little Rock AFB
509 BMW Pease AFB

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43 BMW Andersen AFB
96 BMW Dyess AFB

Nuclear Surety:

90 SMW F. E. Warren AFB
96 BMW Dyess AFB
410 BMW K. I. Sawyer AFB

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FLARE

Drink and drive, and you may lose something on the way home from the party.

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